OptiDx: Bringing the power of data to diagnostic network planning

OptiDx
OPTIMIZING DIAGNOSTIC NETWORKS

THE CHALLENGE

Making diagnostic services more accessible is key to enabling healthcare for all. In low- and middle-income countries, diagnostic systems are underfunded, and basic diagnostic capacity is available in just 1% of primary care clinics and 14% of hospitals. Because diagnostic networks are complex and context-dependent, decision-makers face challenges when trying to expand access to testing while improving efficiency and managing costs, and there is a critical lack of tools for diagnostic planning and delivery.

THE NEED

Diagnostic network optimization (DNO) is a network analysis approach to design patient-centred, cost-efficient diagnostic systems. A multi-partner DNO project has been carried out across various countries.

A web-based, open-access network analytics tool

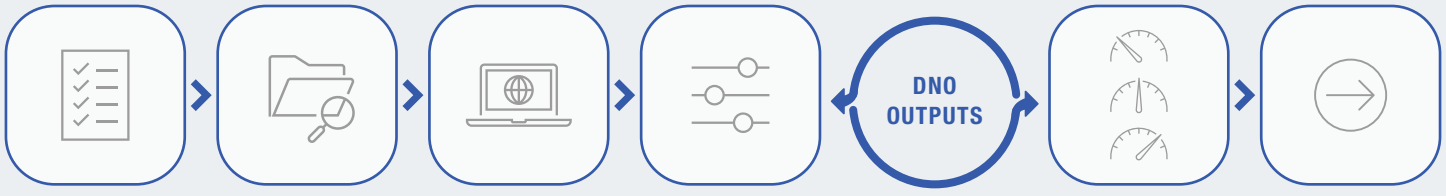
THE SOLUTION

The web-based, open-access tool OptiDx conducts diagnostic network optimization (DNO) and route optimization analysis, for any disease.

Ministries of health, in coordination with partners, input national data to create a digital model of the country's current diagnostic network ('baseline network'), and then adjust inputs and apply constraints to create alternative network designs ('scenarios').

OptiDx is backed by advanced technology, a standardized package of resources and appropriate data security. Models and scenarios can be easily updated as needed.

OPTIDX CONDUCTS DNO IN 5 STEPS



1. DEFINE SCOPE & OBJECTIVES OF DNO
2. COLLATE & PREPARE DATA
3. BUILD BASELINE MODEL
4A. ADJUST DATA INPUTS & APPLY CONSTRAINTS
DNO OUTPUTS
4B. ANALYSE & COMPARE SCENARIOS
5. SELECT & IMPLEMENT DNO OUTPUTS

HOW OPTIDX HELPS

- Compare costs and outputs to shape investments for diagnostics systems strengthening
- Inform evidence-based strategic national plans and guidelines
- Evaluate the integration of new tests on existing devices
- Plan procurement and placement of new devices and forecast test volumes
- Guide funding requests

Decision-makers identify a 'best-fit' approach, including the optimal type, number and location of diagnostics and an associated sample referral network.

A network analytics tool designed for diagnostic networks in low- and middle-income countries

User-friendly, requiring minimal prior experience in network optimization

Highly visual with pre-populated graphs and charts generated in a click

Models the impact of simultaneous change in multiple parameters on network design and performance

USING OPTIDX

MAP NETWORKS

Review the diagnostic network structure, and identify areas for improvement.

OPTIMIZE NETWORKS

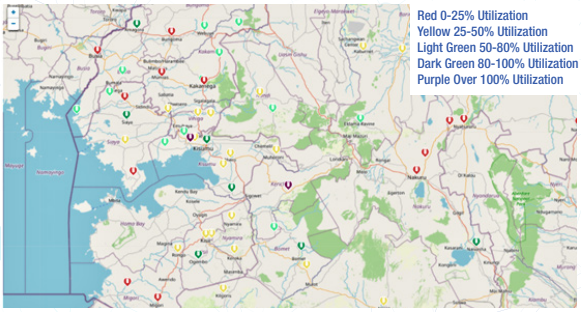
Explore scenarios and identify solutions based on local contexts and priorities.

OPTIMIZE ROUTES

Recommend the optimal frequency, mode and route for transporting samples.

EXPLORE CASE STUDIES

Visualization of testing capacity and utilization in OptiDx.



THE IMPACT

Data-driven strategic planning and investments, with advanced network analytics, support progress towards national health goals, including equity and universal health coverage.

- **Better network visualization** facilitates enhanced coordination among programmes and partners and enables better decision-making.
- **Improved access to diagnosis** reduces diagnostic delay and loss, resulting in more people diagnosed and treated.
- **Increased network efficiency** reduces procurement and operating costs, and enables better prioritization of available resources.

For more information: WEB VIDEO

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